Executive Summary

The North Carolina Division of Air Quality (NCDAQ) and its local program partners (Forsyth County Environmental Affairs Department, Mecklenburg County Air Quality, and Western North Carolina Regional Air Quality Agency) operate a network of monitors to measure various air pollutants. These monitors are located in a variety of locations across the state to determine:

- population exposure,
- maximum concentrations,
- background concentrations, and
- air pollution transported from other regions.

The most well-known air pollutants are ozone and particulate matter, but we also monitor for nitrogen oxides, sulfur dioxide, carbon monoxide, and lead.

The USEPA has for years required the state to publish an annual plan of changes to its monitoring network. Now there is an additional requirement to publish a five-year network assessment. The annual plan contains details of the monitoring network; this five-year network assessment is a look forward at the projected needs of ambient air monitoring program. The need for changes to the program is driven by a number of factors, including:

- changes to the national ambient air quality standards due to better understanding of the science,
- increases in population or shifts in that population,
- new emission sources,
- changes in technology, and
- the availability of funding and other resources.

As the rest of this document (and the associated annual network plan) discuss in detail, the following changes to the monitoring network are anticipated over the next five years:

- Four additional ozone monitoring sites are required; three are to meet new EPA rules (Burlington, Goldsboro, Jacksonville) and one is because of increased population (Wilmington),
- Five additional nitrogen dioxide sites are required to meet new EPA rules; four are near-road sites (Charlotte, Durham, Greensboro, Raleigh) and one is an area-wide site (Raleigh),
- Five additional sulfur dioxide sites are required to meet new EPA rules (Asheville, Charlotte-Gastonia-Concord, Durham-Chapel Hill, Greensboro-High Point, Hickory),
- Two source-oriented lead sites may be needed due to proposed EPA rules (Charlotte/Douglas International Airport in Charlotte, Fort Bragg in Fayetteville),
- Two photochemical assessment monitoring stations may be needed depending on the proposed ozone standard classification (Charlotte),
- Other sites may be added or upgraded to improve our understanding of the impact of emissions control measures, industrial expansion, population growth patterns, or the transport of pollutants into or out of a region,